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Technical notes

Note by the Secretary-General

Addendum

Technical note No. 3: Existing proposals for innovative sources of finance*

I. Introduction

1. Particularly in private financial markets there has been a process of frequent innovation in mobilizing financial resources for development during recent decades. Nationally these innovations have ranged from the development of microcredit facilities to the introduction of increasingly sophisticated financial instruments and markets. There has been less innovation, however, in the mobilization of financial resources through the public sector, with the exception of the increasing use of value-added taxes. More generally, policies such as liberalization and deregulation through, for example, reductions in tariffs and privatization, have reduced the capacity of the public sector to mobilize finance for development from traditional areas, while taxes have not been imposed in new areas such as those associated with globalization and commerce conducted through the Internet. On the other hand, especially in developing countries where public sector outlays are relatively low, demands on public resources are increasing, sometimes as a result of structural changes caused by globalization. The need to finance the provision of global public goods in an increasingly globalized world also adds new urgency to the need for innovative new sources of financing for development. Many innovative proposals have been made over the years to generate additional financing for development, either nationally or internationally.

2. Four important proposed innovative sources of finance are within the terms of reference of other technical notes:

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- Revenue that could result from constraints on tax avoidance and evasion as well as on tax competition between countries following enhanced international cooperation on tax matters (covered in technical note No. 1);
- Revenue resulting from strengthened international cooperation to combat illegality and corruption, inter alia, through repatriation of illegally transferred funds to the countries of origin (covered in technical note No. 2);
- Renewal of the issue of special drawing rights (SDRs) (covered in technical note No. 9 on proposals to ensure the availability of sufficient international liquidity);
- Improved access to microcredit and to credit from domestic banking institutions (covered in technical note No. 10 on microcredit).

3. Leaving those four sources aside, the present note concentrates on proposals for three potential innovative sources of finance that have been frequently mentioned, all relating to *national taxes* resulting from possible international agreements, namely, taxation of international air transport (IATT); a carbon tax; and a currency transaction tax (CTT). Only a brief description is given of the first of these. For the last two, descriptions of the proposals are given following the structure in which they are frequently presented, that is to say, in relation to correction of externalities or market distortions; administrative costs and feasibility; enforceability; the potential for generation of revenue and likely trends; vertical and horizontal burden and incidence of the tax across countries; and other incidental matters.

4. Each of these revenue possibilities, as currently proposed, raises some similar issues. It is normally assumed that each of the taxes would be collected by *individual Governments* following international agreements. ***Thus, no international legislative body or collecting agency is supposed.*** Each revenue source would have to be negotiated and accepted by the countries that would be the major collectors of the revenue. (Agreement would be required among countries about what proportion of the revenue might be used for international purposes, if any, and how that would be calculated.) Decisions could also be required, if this was the case, about whether there would be some international sharing of revenue and, if so, about the management of the process of distribution. However, as indicated above, no considerations are made about how the funds acquired under any of the proposals might be administered.

II. Proposals

A. International air transport tax

5. Experts recognize air transport of passengers and cargo as a key source of environmental pollution due to emissions and noise. Proposals to impose an international air transport user tax have been discussed in various international forums, at the United Nations in particular.[1] Proponents of an international air transport tax support it on the ground that as an economic instrument it embodies the "polluter-pays" principle of internalizing environmental externalities. Such a tax is also progressive in ability-to-pay terms, both across income-class worldwide and across countries, since the tax burden would fall mostly on those individuals and businesses that most benefit from, and contribute to, the "globalization process" through international air transport. One concern expressed is the impact of IATT on tourist destination countries — some developing countries rely heavily on revenues from tourism for foreign exchange and they would be negatively affected given the high price-elasticity of tourist travel.

6. Potential revenue from IATT would probably not be large. A 1 per cent tax on the price of all international passenger tickets and freight transport is estimated to generate US$ 2.2 billion a year, and on passenger tickets, only US$ 0.8 billion.[2] Air travel, especially tourism, is highly income-elastic and may balance or swamp the price effect, at least when economies are growing strongly. Although taxing emissions would be more efficient from the point of view of environmental protection, the impact of IATT on the environment would be expected to be positive based on Organisation for Economic Cooperation and Development (OECD) studies of preliminary results of other eco-taxes implemented since the 1990s, and it would be relatively easy to administer. An alternative would be to impose an environmental tax on aviation fuel, though this has been exempted from excise under the Convention on International Civil Aviation of 1944 (Chicago Convention) to ensure "fair" international competition.[3]

7. Debate about an IATT also includes issues relating to the design of the tax with regard to the tax base: on fuel, passenger tickets and air freight or passenger tickets only; the type of tax: a flat charge per transaction or an ad valorem tax;[4] the tax rate; and how the levy would be collected and used.

B. Carbon tax

8. A carbon tax has been discussed as a potential new source of finance for development by the Commission on Sustainable Development and the High-level Panel on Financing for Development. It would utilize the market mechanism to contribute to a global public good, namely, the reduction in greenhouse gas emissions. It would also be a disincentive since such a tax would be based on the polluter-pays principle and internalizes a negative externality.

1. Nature and implementation

9. A carbon tax would be a levy on all commercial forms of hydrocarbon fuels at a uniform rate in relation to their carbon content. An attractive feature of the tax is that its imposition would discourage the generation of carbon dioxide (CO_2), the most important greenhouse gas. There are strong environmental arguments for fiscal instruments that discourage greenhouse gas emissions. A carbon base would therefore complement and strengthen the implementation of the agreements reached in Bonn in July 2001. If the tax was to be strictly universal, it would require the cooperation of every Government; but the absence of universal agreement would not make the operation impossible or necessarily unacceptable for those otherwise willing to take part. Implementation by, for example, the OECD countries alone would provide a large part of the potential revenue. Figures are regularly issued by many countries of consumption of most forms of commercial energy, and those for hydrocarbons can readily be converted, by a mean coefficient for each particular fuel, to carbon-equivalents.[5]

10. Governments would be free to collect the tax in several different ways; but the probable way would be in the form of an excise-type tax per unit quantity of hydrocarbon fuel sold, with the rate varying according to the carbon-content coefficient from one fuel to another. It would be accepted that Governments might already have a variety of taxes or subsidies or both falling on the use of hydrocarbon fuels, and that they might choose to make the general carbon tax additional to whatever had been in existence. It is not supposed that any commitment would necessarily be made to rationalize existing provisions. The agreement made might thus encourage participants to impose additional taxes at the required rates, but require them to submit internationally revenue corresponding, with perhaps a certain margin of tolerance, to the amounts due under ex post independent assessments of their residents' use of the various hydrocarbon fuels. It would be rationally consistent for the rates to be fixed by agreement in real terms,[6] with an agreed schedule of the carbon coefficients deemed to apply to different fuels.

2. Revenue yield in relation to market distortions; trends of revenue at given tax rates

11. Recently, consumption of commercial hydrocarbon fuels has averaged in the order of 1 ton of carbon per person per year across the world, a total now, therefore, of about 6 billion tons of carbon. A uniform carbon tax amounting on motor gasoline to US$ 2.00 per United States barrel, in other words 4.8 cents per United States gallon, would represent US$ 17 per ton of motor gasoline, which, at an approximate carbon content of 0.81, would mean US$ 21 per ton of carbon.[7] This, applied universally, would raise about US$ 125 billion.

12. If specific rates were fixed in real terms, revenue in real terms would be directly proportional to hydrocarbon use as measured by carbon content. Over the past 50 years, the use of hydrocarbons has risen considerably — but irregularly, with a downturn from 1979 to 1982, when energy costs were unusually high and economic activity was depressed. Success of any degree in the world effort to check global-warming influences, through conservation or technological substitutes, would reduce real revenue at any set of real rates.

3. Enforceability and administrative costs

13. Specific excises, especially on sales of bulky commodities, are among the easiest and most inexpensive taxes to impose. This is because the tax base is identified relatively easily. A gallon of gasoline or a ton of coal cannot readily be disguised.

14. In addition, it is noted that not only are specific excises on sales of commodities of this sort intrinsically cheap to administer compared with other kinds of tax but also, because the commodities will in many cases already be subject to specific taxes, the administrative machinery for taxing them would not have to be created anew, and in these many cases administrative and compliance costs of the extra taxation would be negligible.

4. Burden and incidence of the tax

15. The burden of the tax would fall to some extent on users of "commercial" hydrocarbon fuel — in relation to their use and to the carbon-intensity of the fuel that they use; and to some extent also on those involved at various stages in the extraction and processing of those fuels and on owners of property rights over hydrocarbon resources.

16. Among countries at any income level, there are wide variations in the ratio of hydrocarbon consumption to income — and even wider variations (from zero upward) in the proportional contributions of hydrocarbon resource rents to income. There would thus be big variations across countries in the proportion of carbon tax paid to national income at any given income level.

17. Poorer countries appear to have some tendency to consume more commercial energy per unit of income than richer ones, though, as mentioned above, there is great variation at both ends of the scale. To the extent that this is true, the tax would have some regressive tendency across countries. Hydrocarbon resources are important as sources of income in some high-, middle-, and low-income countries, the distribution having no obvious tendency to make the tax either progressive or regressive.

18. The High-level Panel suggests that a carbon tax could be structured to be supportive of developing countries by allowing them to recycle receipts into their own economies while industrialized countries would be required to pay a part of their receipts to international organizations responsible for financing global public goods.

19. In affluent countries, poor households tend to spend a higher proportion of income directly on fuel and power than rich ones, but any tendency to spend a higher proportion on energy would appear at least mitigated when indirect uses were taken into account. Moreover, in poorer countries it is not clear that, even directly, the poor would consistently spend more of their income on commercial energy than the rich. Hence, no generalization on the regressiveness or other characteristics of the tax with respect to income classes in any country is normally made.

20. Owners of hydrocarbon resources and participants in their extraction and processing would be affected disproportionately, insofar as the tax reduces energy spending or diverts it to non-hydrocarbon sources.

C. Currency transaction tax

21. The perceived advantages of deterring short-term speculation in the foreign exchange market and of generating large sums of revenue has made a CTT,[8] even at a "small" rate, attractive to a large number of proponents. Proposals for study of a CTT from Governments, international agencies, civil society organizations and the High-level Panel on Financing for Development have been presented to intergovernmental bodies on occasions such as the twenty-fourth special session of the General Assembly entitled "World Summit for Social Development and beyond: achieving social development for all in a globalizing world", financing for development hearings, meetings of the Commission on Sustainable Development and the Commission for Social Development, meetings of multilateral development banks, and meetings of major developed-country groupings.

1. Nature and implementation

22. What is generally proposed in this context is an ad valorem tax on foreign exchange transactions, possibly confined to the "wholesale" foreign exchange market and probably collected at the point of payment or settlement in banking systems. When proposed as a global source of revenue, this tax is normally conceived as applied at a uniform rate and ideally across the world. Until recently, it was normally discussed as if it would have to be assessed and collected when, and in whatever jurisdiction, foreign exchange trades were agreed; and, because trades might be agreed in any country and through any one of a variety of media, this raised doubts over whether enforcement would be possible, at least without near-universal cooperation on the part of Governments.

Recent proposals, however, suggest that applying the levy to wholesale trades at the point of bank settlement at a uniform rate would make it possible to collect (without the hazard of avoidance through diversion from taxed to untaxed jurisdictions), provided only that the authorities issuing those currencies acting for the time being as "vehicle-currencies" (five or six at present) would cooperate.[9] This would be the case, it is argued, because virtually all foreign exchange transactions have a vehicle-currency on at least one side and, if all were taxed at the same rate, there would be no reason to switch from one to another. The central bank issuing each of the vehicle-currencies is in a position to collect a tax on payments either into or out of banks within its jurisdiction; to distinguish payments for foreign exchange from those for other transactions; and to require similar information and taxation on any offshore netting system with access to its banks.

2. Revenue yield in relation to market distortions; trends of revenue at given tax rates

23. Total annual global currency transactions, as reported in daily form by the Bank for International Settlements (BIS), were of the order of US$ 360 trillion for 1998 and US$ 264 trillion for 2000, on the assumption of a 240-trading-day year.[10] US$ 264 trillion may be taken as an indicator of current levels. If a tax was fixed at 0.1 per cent and it had no effect on the tax base, it would raise revenue of the order of US$ 264 billion. If, to take another assumption, the tax at that rate was to reduce the tax base by 50 per cent, the yield would be US$ 132 billion.

24. It is generally considered that a tax at that low rate would have a negligible effect on trade or long-term investment, in spite of the fact that the increase that it would impose on the transactions costs of exchange for these purposes might possibly be several times as high as the tax rate. The effect of a currency transaction tax in reducing short-term capital movements thus cannot easily be judged, and opinions are divided over whether any such reduction should be regarded as good in deterring destabilizing speculation or as bad in deterring stabilizing speculation.

25. On the assumption that it might be deliberate policy to levy the revenue instrument at a rate that would have no more than a negligible effect on short-term capital movements (with any use of currency-transaction levies for stabilization purposes treated as a separate and independent exercise, possibly involving much higher rates specific to particular countries and circumstances), a rate of 0.02 per cent has been suggested, yielding, if there was no impact on the tax base, about $53 billion.

26. Uncertainty over the impact of the tax on its base might suggest that the tax, once Governments had decided to apply it for revenue purposes, might be initially imposed at an extremely low rate, and then raised by pre-agreed small steps so that some idea of the elasticity function of tax base to tax rate might be gained. A rate considered desirable in that light could thereafter be fixed.

27. Proponents point out that it seems most likely that the level of currency transactions under any of the tax rates considered would generally continue to grow — except insofar as there were further currency unions involving major currencies. However, they also note the fall recorded between 1998 and 2000, which was much larger than could be accounted for by the introduction of the euro.

3. Enforceability and administrative costs

28. Proposals cited above[11] suggest that, if the tax was confined to "wholesale" transactions and collected, with the cooperation of a handful of vehicle-currency countries, at the point of bank settlement, enforcement could readily and inexpensively be achieved, at least given the types of derivatives being used in 2001 within foreign exchange markets.

29. As also indicated above, administration of the tax by central banks on bank settlements should, as generally proposed, be administratively inexpensive. Compliance costs would also be low. Hypothetically, further forms of derivatives might be employed by transactors in order to make effective currency deals without bank settlements; and these, like devices for evading or avoiding other taxes, might possibly add extra investigative and legal costs, and also contribute to the difficulty of achieving coordinated additional legislation among the six or so major-currency authorities administering the tax. The costs and settlement risks of transacting outside the wholesale markets, however, or outside the banking system altogether, are likely in any case to *limit* the use of derivatives other than those that involve ultimate bank settlement and would fall within the normal scope of the tax.

4. Burden and incidence of the tax

30. The tax burden seems likely to fall on businesses and individuals in positive relationship to two elements: first, and overwhelmingly, their engagement in international financial markets; and second, and subsidiarily, their direct or indirect involvement in trade of goods and services, and in transfers and income flows and flows of long-term capital between currency areas. This is because the value of financial transactions is more than 50 times as great as the value of world trade in goods and services and over 500 times as large as that of foreign direct investment in 1998, the latest year firm figures were available for all three indicators.[12] In any case, the payer of the CTT is most likely to be a beneficiary of increased international financial and trade flows, especially of the globalization of financial markets.

31. Richer countries would be expected to collect a much larger share of the tax than poorer countries in relation to income on the grounds of their dominant share of financial transactions. However, at each average-income level, countries with higher reliance on financial services would tend to show a larger ratio of tax to income.

32. Individuals and corporations selling foreign exchange services or participating in foreign exchange arbitrage and speculation are likely to be deriving quasi-rents from the foreign exchange markets, and hence in general will tend to bear a larger share of the burden than other classes of persons. Since financial transactions are likely to be directly related to income, it is probable that the incidence of the tax across individuals in any country would be progressive.

D. Other proposals

33. Several other proposals exist that are not referred to in detail in this note for various reasons, namely, that, inter alia, they would generate very little or no revenue; they relate basically to domestic policy and do not require international cooperation to implement; or that arrangements already exist that would enable generation of finance from the source. Among those that are most commonly mentioned are:

- Taxation of the global commons through mining of the seabed or Antarctica or use of outer space. There is no seabed mining at present and if there were, provisions exist for taxing it under the United Nations Convention on the Law of the Sea.[13] Taxing of ocean fishing would be possible but is unlikely to generate significant revenue. Mining in Antarctica is prohibited. The satellite use of outer space would not generate significant revenue at any reasonable tax rate;

- General levies on natural resource extraction and land. These are generally regarded as a national matter about which the justification for international coordination would seem to be no greater than for other normal sources of domestic revenue. A major problem would also be establishing a fair and sufficiently simple basis for assessment;

- Taxation of arms exports. This would largely involve Governments in "taxing themselves". A tax on arms might well fall on importers rather than exporters and in that case disproportionately on developing countries since they are mostly net buyers. Compensation arrangements would be possible but would add to the administrative complexity of the proposal. The tax would probably not contribute very much to limiting illegal transfer of arms (and in fact might have the opposite effect);

- A "bit tax". This would be a small tax on the volume of data transmitted through the Internet, at 1 United States cent on every 1,000 kilobytes of data, for example. At this rate, Internet data traffic in 1996 would have generated $70 billion.[14] Although such a tax could have the potential to mobilize increasing amounts of revenues, proponents point out that, given the rapid expansion of the Internet, imposing a tax on such an important and cross-cutting emerging technology would probably not be easy. And administering a tax in an area of activity that is evolving as rapidly as the Internet would also be complex and technically difficult;

- Public/civil society/private partnerships. These encompass not only national arrangements that do not require international agreement for effective operation but also many forms that have been in operation for decades or even centuries (particularly in sectors such as education, health and other social services) and so are hardly innovative. It is true that during the 1990s the concept of public/civil society/private sector

partnership in development gained more support and was applied more widely, but since such partnerships are already being effected in most countries, more detailed references were not included in this technical note. Some of the issues are discussed in the report of the Secretary-General to the Preparatory Committee (A/AC.257/12).

Notes

[1] See reports of the Secretary-General to the Commission on Sustainable Development for various years.

[2] See report of the Secretary-General on financial resources and mechanisms for sustainable development: overview of current issues and developments (E/CN.17/1995/8, para. 218).

[3] International Civil Aviation Organization: "Aircraft engine emissions: ICAO's existing policies", background information paper for the Colloquium on Environmental Aspects of Aviation, 1-11 April 2001, Montreal.

[4] Such taxes are proportional to the monetary value of taxed transactions.

[5] For example, the form of accounting that reduces these and other substances and processes to equivalents as generators of greenhouse activity used by the United Nations Framework Convention on Climate Change (United Nations, *Treaty Series*, vol. 1771, No. 30822) can be utilized to make the conversions.

[6] For example, the rate in carbon to be expressed in exchange-equivalents of constant-purchasing-power amounts in SDRs or United States dollars.

[7] Coefficients and relationships from Economist Newspaper, Limited (1964); and as implied in Grubb (1989, p. 35).

[8] This is often referred to as the "Tobin tax", after the Nobel laureate James Tobin who first proposed it in a 1978 article. For an overview of the debates over and the evolution of this tax proposal, see, for example, T. Palley (2001) and Ul Haq, Kaul and Grunberg (1996).

[9] See Schmidt (1999; 2001).

[10] Based on daily turnover reported in Bank for International Settlements (BIS), *Annual Report of the Bank for International Settlements, 2000-2001* (Basel, 2001), p. 98. However, large differences reported for the same period in different issues of the source suggest that these figures should be taken as highly approximate.

[11] See Schmidt (1999; 2001) and Spahn (1996).

[12] Currency transaction volume is based on Bank for International Settlements, *Annual Report of the Bank for International Settlements, 2000-2001* (Basel, 2001); trade value is as reported by the World Trade Organization (Historical Series, available at http://www.wto.org/english/res_e/statis_e.htm); and FDI flows are from the United Nations Conference on Trade and Development (UNCTAD), *World Investment Report, 2000* (United Nations publication, Sales No. E.00.II.D.20), annex, table B.1.

[13] See *The Law of the Sea: Official Texts of the United Nations Convention on the Law of the Sea of 10 December 1982 and of the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 with Index and Excerpts from the Final Act of the Third United Nations Conference on the Law of the Sea* (United Nations publication, Sales No. E.97.V.10).

[14] United Nations Development Programme (UNDP), *Human Development Report, 1999* (New York, Oxford University Press, 1999), p. 66.

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